

# 7

## Environmental, Safety, and Health Education\*

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### Supplement

7.02	Health Hazard Communication (formerly Supplement 1.02)
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\* Major chapter revision.

## Environment, Safety, and Health Education

### 7.01 Introduction

The policy and responsibilities of the Lawrence Livermore National Laboratory (LLNL) training program are described in LLNL's *Training Program Manual*. The purpose of this chapter is to define the policy and responsibilities for environmental, safety, and health (ES&H) education.

LLNL provides a comprehensive safety and health program to meet U. S. Department of Energy (DOE) regulatory, legislative, and operational requirements. In addition, the program is designed to encourage and train employees to develop an attitude of "thinking health and safety" so they can apply their skills and knowledge to provide maximum protection for themselves, fellow employees, LLNL facilities, and the public. This involves

- Recognizing hazards in the work area.
- Considering the health and safety requirements of each task undertaken.
- Using the correct procedures and skills to perform the task properly.
- Determining the safest course of action when faced with a new or unexpected situation.

The Hazards Control Department provides health and safety courses to meet job-related training requirements, as well as supplemental training needs. Required courses are listed in Appendix A of LLNL's *Training Program Manual*. A list of Hazards Control nonrequired information courses and course descriptions are shown in Appendix 7-A. The courses listed in Table A-1 are available as supplemental training.

### 7.02 ES&H Training Policy

LLNL's policy for ES&H is to ensure that all personnel have the training required to protect health and to perform their work in a competent, safe, and environmentally sound manner. The training standards will meet or exceed the requirements of DOE, regulatory agencies, and where appropriate, standards established by industry or professional organizations. Training requirements

for workers handling nonradioactive chemical, biological, and/or physical hazards are described in Supplement 7.02. The Laboratory will provide all training needed to enable its employees to meet those standards and will document the training records of all its personnel.

### 7.03 Required Training

Training requirements are identified in LLNL's *Training Program Manual* and directorate training implementation plans.

### 7.04 Responsibility

The Laboratory is responsible for providing a safe work environment and ensuring that each employee has the knowledge and skills required to perform the task at hand. Employee training is provided, as appropriate, to meet the knowledge and skill required for performing a particular job. Records of employee training are maintained and available for ensuring that all required training is completed. Contract employees, participating guests, and vendor personnel will be provided with the same required training that a Laboratory employee will receive when working in the same area or performing the same types of tasks.

Supervisors are responsible for ensuring that employees have satisfactorily completed all required training prior to assignment to a job or within the specified grace periods, as spelled out in directorate training implementation plans.

Employees are encouraged to attend all assigned training classes and are expected to satisfactorily complete these courses. They are encouraged to assist supervisors/managers in identifying additional training needs.

Specialized LLNL support organizations provide training as requested. They monitor federal and state laws and DOE regulations for applicable training requirements and notify LLNL organizations of any changing needs. They retain

documentation of course development and content, assure that courses are updated as required, keep class attendance lists, retain successful course-completion documentation, and furnish appropriate data to the Laboratory Repository of Completed Courses (LROCC). Such organizations are also responsible for ensuring that their instructors meet the instructor qualification requirements identified in LLNL's *Training Program Manual*. Specific responsibilities are described in the *Training Program Manual* and in each directorate's training plan.

## 7.05 General Training

ES&H training at LLNL is designed to meet both regulatory and operational needs. In some instances laws, regulations, and DOE orders designate what must be taught and the minimum classroom time. In all instances, training is conducted using the best available training techniques and materials that meet the unique requirements of training a large work force with a broad level of education and experience. This will include classroom stand-up, video presentation, computer assisted, on-the-job, and self-study methods. Required health and safety courses are based on sound organizational and instructional practices, which are described in the *Training Program Manual*.

## 7.06 Safety Meetings

One means of educating, motivating, and stimulating employee interest is the use of periodic group safety meetings. Group safety meetings may be the 5-minute, on-the-job (tailgate) type, more formal department or division meetings in an auditorium, or anything in between. They may be conducted as a specific part of general meetings. At a minimum, when safety meetings are selected as the vehicle to convey safety information, a record of the meeting including the date, subject, acceptable positive identification (such as signatures or magnetic strip readers) of attendees and the name of the presenter should be kept to confirm the event.

Regardless of the type of meeting held, the person conducting the meeting and presenters should be prepared to make the most effective use of both the supervisors' and employees' time. Course HS-0005 (Environment, Safety, and Health for Managers) discusses conducting safety meet-

ings; however, a basic system for conducting effective safety meetings is described below:

- PREPARE—organize your material.
- PINPOINT—zero-in on one main idea.
- PERSONALIZE—keep it close to home and meaningful to your group.
- PICTURE—use visual aids or at least create a mental picture of what you are saying for your listeners.
- PRESCRIBE—ask your group to use the information from the meeting; then discuss at the next meeting how they used it.

To continue having effective meetings, the supervisor should solicit safety issues from the group and gather ideas from other sources, such as incident reports, occurrence reports, trade or industry bulletins, DOE bulletins, magazines, newspapers, and other supervisors. Some of these safety meetings should be devoted to off-the-job topics that employees and their families encounter while away from work.

## 7.07 Training Resources

Many work assignments and activities require some safety training and orientation. The situation controls the method and depth of this training and is identified in directorate training implementation plans. This may vary from an informal safety talk by the supervisor to a required safety course. It could also include comprehensive, advanced-level training specifically tailored to an operation or assignment, as spelled out in operational and/or facility safety procedures.

Supervisors are encouraged to use the health and safety courses offered by Hazards Control as part of their training programs whenever possible. The enrollment procedures for these health and safety courses are detailed in the LLNL course catalog. When training requirements cannot be satisfied by an existing health and safety course, specialized training to meet specific needs can be developed; consult the ES&H team leader for your area.

The Hazards Control Information Services Group maintains a library of audiovisual aids (e.g., films, videotapes, slides, and audio cassettes) to enhance informal safety meetings or formal training programs. In addition, a training specialist is available to assist with safety talk preparation and special program preparation and presentation. For information or a current catalog of available aids,

contact ext. 2-1217. Resource needs beyond the scope of your organization should be discussed with the LLNL training manager (ext. 2-1266).

## 7.08 Course Announcements

In addition to the description of health and safety courses provided in Appendix 7-A, information on health and safety courses are published in the course catalog distributed by the Employee Development Division. Course catalog bulletins are periodically distributed as well to alert employees to new or rescheduled courses or courses that still have openings. Required ES&H courses are also described in the *Training Program Manual*.

For additional information on training identified in the *Training Program Manual*, contact the following organizations:

<b>LLNL support organization</b>	<b>Contact ext.</b>
Hazards Control	2-5158
Environmental Protection	2-0361
Security Awareness	3-8284
Emergency Preparedness and Response Group	2-5410
Personnel Assurance Program	3-6984
Human Resources Department (Employee Development Division)	5-5478

## 7.09 Course Enrollment

To attend health and safety courses conducted by Hazards Control, applicants must complete an enrollment form (see LLNL's course catalog) and return it to Hazards Control (L-383) for scheduling. Applicants should not attend a class until their enrollment status has been confirmed by Hazards Control.

For enrollment in courses conducted by other teaching organizations, follow the instructions provided in the course catalog or provided by the teaching organization.

"No shows" create an added cost to the training program and prevent others on the waiting list from attending. Employees scheduled for a class must notify the teaching organization if they cannot attend. No-show histories will periodically be referred to the appropriate associate director for action.

For participants who successfully complete a course, Hazards Control will provide appropriate information to the LROCC. Information on employee training records can be obtained from your payroll supervisor or your directorate training coordinator.

## Appendix 7-A

### Health and Safety Training—Nonrequired Information Courses

LLNL provides a health and safety program designed to encourage and train each employee to develop an attitude of “thinking safety.” This involves the following:

- Recognizing the hazards that can be found in the work area.
- Considering the safety requirements of each task undertaken.
- Using the correct procedures and skills to perform the task safely.
- Taking the safest course of action when faced with a new or unexpected hazard.

Table A-1 describes the courses that are available for supplemental training. Descriptions for these courses follow.

**Table A-1. Supplemental health and safety courses.**

<b>Course no.</b>	<b>Course title</b>
<b>HS0007</b>	<b>Occurrence Reporting</b>
<b>HS0032</b>	<b>Preparing an Operational Safety Procedure</b>
<b>HS1610</b>	<b>Operating with the Fire Department During Emergencies</b>
<b>HS2240</b>	<b>DOE Explosives Safety for Supervisors</b>
<b>HS3110 to HS3520</b>	<b>Additional Criticality Training</b>
<b>HS4200</b>	<b>Hydrogen Fluoride</b>
<b>HS4220</b>	<b>Industrial Toxicology</b>
<b>HS4240</b>	<b>Chemical Safety</b>
<b>HS4420</b>	<b>Asbestos Safety</b>
<b>HS5230</b>	<b>High-Voltage Safety</b>
<b>HS5300</b>	<b>Back Care Workshop</b>
<b>HS5310</b>	<b>Video Display Terminal Ergonomics</b>
<b>HS5500</b>	<b>Seismic Safety</b>
<b>HS5970</b>	<b>Interpreting Architectural Drawings</b>

## **Health and Safety Course Descriptions**

### **HS0007 Occurrence Reporting**

This course, open to all employees, consists of three classroom sessions (for a total of 9 hours), plus a multi-session workshop that meets between the second and third classroom sessions at the participant's option (for a total of 15 hours). Thus, total time for the course is about 24 hours, spread over a 4-week period. Classroom time is devoted to a study of the *Occurrence Analysis Manual*, while workshop time is spent applying the classroom material to a mock accident case. After satisfactorily completing the course, the participant can be assigned as a member of an Occurrence Analysis Committee.

### **HS0032 Preparing an Operational Safety Procedure**

This course, designed for those who must prepare an operational safety procedure (OSP), reviews activity planning, identification of hazards, evaluation of risks, and application controls.

### **HS1610 Operating with the Fire Department During Emergencies**

This course covers the responsibilities to be discharged during an emergency. Recommended for supervisors, group leaders, assembly point coordinators, zone coordinators, and facility supervisors.

### **HS2240 DOE Explosives Safety for Supervisors**

This course provides participants with an understanding of the *DOE Explosives Safety Manual* and methods for applying the requirements contained in this manual to their own operations. Recommended for supervisory or management personnel who are responsible for explosives operations or facilities.

### **HS3110 to HS3520 Additional Criticality Training**

Additional criticality safety training courses are offered by special arrangement with various facility managers. See the Hazards Control ES&H team leader for your area for details.

### **HS4200 Hydrogen Fluoride**

This course covers the unique hazards and precautions associated with handling hydrogen fluoride. Special emphasis is given to first-aid procedures for victims of exposure and to safety use and storage of the material.

### **HS4220 Industrial Toxicology**

This course defines and explains routine toxicology terms and concepts. Designed for employees who work with toxic materials and health and safety technicians.

### **HS4240 Chemical Safety**

This course presents information on handling, transporting, or working with chemicals in labs or storerooms. Recommended for all employees handling, transporting, or working with chemicals.

### **HS4420 Asbestos Safety**

This course covers the health effects associated with exposure to asbestos; the relationship between smoking, asbestos, and cancer; and the LLNL medical surveillance program.

**HS5230 High-Voltage Safety**

Participants will develop an awareness of primary and secondary dangers of high voltage and have an understanding of engineering/administrative controls specified in the Lab's electrical safety policy. Demonstrations covered are: recharging capacitor; capacitor holding charge; amount of energy stored; induced current; projectile accelerator; potential gradient on a ground wire; charged dielectric surface; failed components; RF energy; show and tell. Required by OSHA Standard 1926.950 for all personnel working with or around high-voltage equipment.

**HS5300 Back Care Workshop**

Participants learn proper posture for lifting, sitting, and standing; the nature of back injuries; and methods of preventing back pain. This course, taught by a registered physical therapist, gives exercise sessions to demonstrate how to strengthen the back. This course can be tailored to meet specific worksite needs.

**HS5310 Video Display Terminal Ergonomics**

The objective of this course is to make each employee familiar with office ergonomics and to prevent injuries. The course includes information on how to adjust computer terminal workstations for comfort and safety. Vision care, lighting, rest breaks, and exercise are also discussed.

**HS5500 Seismic Safety**

This course teaches techniques to protect equipment, materials, and records and to ensure personal safety during an earthquake. Available to all employees.

**HS5970 Interpreting Architectural Drawings**

This course provides a working knowledge of the Plant Engineering organization, including job-flow procedures. Upon completion, participants should be able to effectively review architectural/engineering drawings and specifications for compliance with codes, standards, and regulations.